BAYTIN, Ayzik Abramovich, dots.; LOGINOV, Ivan Vasil'yevich, dots.; STOLYAROV, Dmitriy Pavlovich, dots.

[Forest management in foreign countries] Lesoustroistvo v zarubezhnykh stranakh. Moskva, Lesnaia promyshlennost', 1964. 266 p. (MIRA 17:9)

LOGINOV, I.Z.

Chill drum fro casting core skeletons. Lit. proizv. no.10:39-40 O '63. (MIRA 16:12)

LOGINOV, I.Z., inzh.

Universal self-cooling equipment for centrifugal machines. Lit. proizv. no.9:38-39 S '65. (MIRA 18:10)

LOGINOV, I.Z.; PETROVSKIY, V.I.; CHIGIR, I.D.

Obtaining shaped castings by centrifugal methods. Lit. proizv. no.2:45-46 F '63. (MIRA 16:3)
(Centrifugal casting)

LOGINOV, J.,generalplukovnik letectva

Today and tomorrow of the Soviet civil aeronautics.
Letecky obzor 5 no.11:341 '61

1. Vedouci Hlavni spravy civilniho letectva pri rade ministru SSSR.

LOGINOV, K., kandidat tekhnicheskikh nauk.

Automatic dead reckoning for navigation in ice. Mor.flot 16 no.4: 21-23 Ap '56. (MLRA 9:8)

1. Murmanskoy VMU Ministerstva rybnoy promyshlennosti.
(Navigation) (Ice-breaking vessels)

LOGINOV, K.S., inzhener; KRASNOV, Yu.N., inzhener.

Metal mats. Gidr. i mel. 9 no.1:45-47 Ja '57. (MLRA 10:1)
(Excavating machinery)

LOGINOV, K.V., dots., kand. tekhn. nauk; Prinimali uchastiye: KISELEV, O.N., kand. geogr. nauk; PLATONOV, V.E., inzh.-gidroakustik; SERKO, G.S., red.

[Hydroacoustical fish detecting apparatus] Gidroakusticheskie poiskovye pribory. Moskva, Transport, 1964. 289 p. (MIRA 18:1)

[redacted], M., [redacted]OVNIKOV, F.

Birch

Growing barbate birch without cover. Les. Khoz., No. 12, 1951.

Monthly List of Russian Accessions. Library of Congress, April 1952. UNCLASSIFIED.

KATSMAN, F.; SHMELEV, A.; LOGINOV, L., starshiy inzh.

Use of strain gauges for testing marine internal combustion engines.
Mor.flot 21 no.5:22-23 My '61. (MIRA 14:5)

1. Nachal'nik otdela TSentral'nogo proyektno-konstruktorskogo byuro No.1 Ministerstva morskogo flota (for Katsman).
(Marine diesel engines—Testing)
(Strain gauges)

ACC NR: AP6006551 (A) SOURCE CODE: UR/0335/65/000/005/0003/0006

AUTHOR: Golovkin, N. (Professor); Loginov, L.

ORG: Leningrad Technologic Institute for the Refrigeration Industry (Leningradskiy tekhnologicheskiy institut kholodil'noy promushlennosti)

TITLE: Proper conditions for the refrigeration of meat

SOURCE: Myasnaya industriya SSSR, no. 5, 1965, 3-6

TOPIC TAGS: food processing equipment, food preservation

ABSTRACT: The aim of the investigation was to determine the length of the refrigeration period for meat as a function of the temperature and the air flow rate. For convenience and accuracy of the observations, the experiments were carried out on a model material which was in the form of a sphere and whose thermophysical properties were close to those of meat. Use was made of agar models with diameters of 0.055, 0.065, 0.080, 0.090, and 0.100 meters. The refrigeration was carried out at air temperatures of 0, -4, -6, -14, and -19°C at flow rates of 0.2, 1.75, 2.5, 3.8, and 6.9 meters/sec. The experimental data for spheres of different diameters at various temperatures are listed in an extensive table, and a curve shows the change in the mean temperature of the sphere as a function of the temperature and the flow rate of the cooling medium, at the moment when the cryoscopic temperature is reached on the

Card 1/2 UDC: 637.5:542.46.004.13

ACC NR: AP6006551

surface of the sphere. In general, the experimental data were found to agree well with the equation:

$$Nu^* = 2{,}708\,(Re)^{0{,}422} \qquad (12)$$

where, the correlation coefficient $\rho = 0.9893$, and the mean quadratic deviation $\sigma_{\Delta} = 0.0199$. For best results, the rate of motion of the cooling medium, at negative temperatures from -4 to -6°C, should lie within the limits of 1-2 meters/sec. Orig. art. has: 12 formulas, 4 figures, and 1 table.

SUB CODE: 06, 02, 13/ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 002

Card 2/2

L 02958-67 EWT(d)/EWP(f)/EWA(c)/EWT(v)/EWT(k)/EWP(h)/EWP(l) IJP(c) JD

ACC NR: AP6029954 (A, N) SOURCE CODE: UR/0413/66/000/015/0133/0134

AUTHOR: Baranov, N. A.; Birman, R. S.; Bugrov, M. S.; Nozdrin, V. R.; Dneprov, A. I.; Balkov, G. V.; Loginov, L. A.

ORG: none

TITLE: An automatic line for continuous adjusting, cutting, and inspecting for the presence of surface defects and for the type of steel or the hardness of metallic rods. Class 49, No. 184589 [announced by Moscow Metallurgical Plant "Sickle and Hammer" of the Order of Lenin and the Order of the Workers' Red Banner (Moskovskiy ordena Lenina i ordena Trudovogo Krasnogo Znameni metallurgicheskiy zavod "Serp i molot")]

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 133-134

TOPIC TAGS: metalworking, automation, industrial automation, automatic control equipment

ABSTRACT: This Author Certificate presents an automatic line for continuous adjusting, cutting, and inspecting for the presence of surface defects and for the type of steel or hardness of metallic rods. To improve its efficiency and the quality of inspection, the line contains a combination of consecutively mounted (along the course of the technological process): an assembly for adjusting and cutting the ends of the rods; an assembly for a simultaneous inspection of the rods for the presence of surface defects and for the type of steel or for the hardness (by a defectoscopic

UDC: 620.179.6-422.2

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assembly); and an assembly for sorting the usable and the defective rods (see Fig. 1).

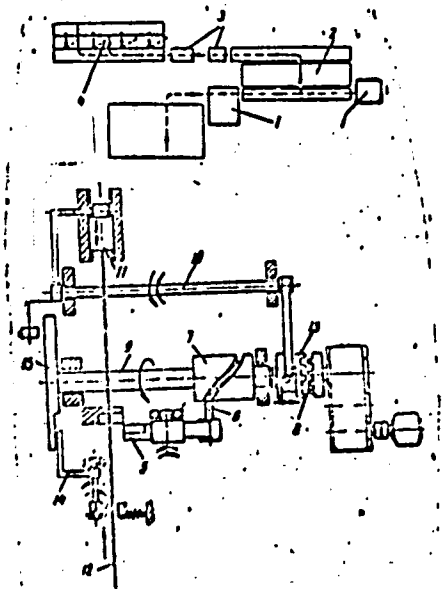

Fig. 1. 1 - assembly for adjusting and cutting; 2 - assembly for dismounting and transporting; 3 - defectoscopic assembly; 4 - assembly for sorting the usable and the defective products; 5 - movable blade; 6 - knife finger; 7 - knuckled drum; 8 - clutch; 9 - roller; 10 - lever; 11 - movable carriage; 12 - rod; 13 - semiclutch; 14 - lever; 15 - sprocket

L 02258-67
ACC NR: AP6029954

The assembly for adjusting and cutting of the rods being inspected may contain a lever shear with one movable blade. The shear contains a finger, a drum knuckle with a contoured recess for receiving the finger of the blade, a clutch mounted on one roller, a system of levers connected to a bearing carriage and absorbing the force of a blow from the moving rod being inspected and transmitting the movement to one of the semiclutches. The assembly for adjusting and cutting the inspected rods may also contain a mechanism for collecting the cut rods. This mechanism is made in the form of a lever kinematically connected to a sprocket mounted on the roller which also carries the knuckled drum and the clutch. Orig. art. has: 1 figure.

SUB CODE: 13, 05 SUBM DATE: 10Dec63

Card 3/3

LOGINOV, L.I., aspirant

Possibility of using sewage containing natural radioelements for field irrigation. Gig. i san. 28 no.6:20-23 Je'63 (MIRA 17:4)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta kommunal'noy gigiyeny.

119-11-2/7

AUTHOR: Loginov, L.I., Candidate of Technical Sciences

TITLE: Instrument Building on the 40th Anniversary of the Great October (Priborostroyeniye k sorokaletiyu Velikogo Oktyabrya)

PERIODICAL: Priborostroyeniye, 1957, Nr 11, pp.3-7 (USSR)

ABSTRACT: In connection with the development of industry the demand for control-meters and regulators increased; their production increased 23-fold in the time from 1927/28 till 1932. The production of laboratory apparatuses increased 9-fold during the same period. The increasing demand could not be met as the speed of the development of instrument building was not sufficient. It therefore was necessary to import different kinds of such instruments equalling a total amount of 476 million Rubels during the first five years. In order to improve this situation the construction of some instrument-building enterprises for the production of automatic regulators and control instruments were planned during the second five-years plan. By government law some scientific research institutes and other corresponding enterprises were founded. These measures made it possible to essentially increase

Card 1/3

Instrument Building on the 40th Anniversary of the Great October

the production of instruments within the periods of the 4th and 5th five-years' plan.

The present level of production of control- and regulator-instruments of heat-energy parameters is characterized by the following achievements: consumption measuring instruments of various kinds were produced in great quantities the functioning of which is based on the measuring of the changing pressure-drop in the narrowing devices. The following instruments are produced: swimmer-bell-and ring balances, diaphragm- and sylphono-pressure gauges, consumption meters for the constant pressure-drop, and others.

The main interest of all these research institutes has to be directed to the development of unified instruments for the measuring of the consumption (with a constant relief signal) as well as to instruments which can fully replace swimmer-diffusion pressure gauges working with mercury.

Of the prospective constructions of liquid-level indicators (water balances) developed during the last years the radio-active liquid-level indicator has to be mentioned, the functioning of

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Instrument Building on the 40th Anniversary of the Great October

which is based on the principle of the transillumination of the control object with radio-active gamma-rays. An ultra-short-wave liquid-level indicator was developed.

The factories produce pressure gauges of different series, as for example, radio-active ionisation pressure gauges, and instruments for the analyses of gas content (gas-analysers).

The sixth five-years' plan provides the production of more than 120 types of instruments for the analysis of various gases and gas mixtures. At present there are only 41 types in series production. Of constantly growing importance are instruments for the determination of the content of substances as well as of the characteristics of substances in connection with the intention to carry out the control of processes not by indirect parameters but by means of indices which directly characterize the final product of production.

AVAILABLE: Library of Congress

Card 3/3

YUSHKOV, P.P.; LOGINOV, L.I.

Numerical integration of equations for heat conduction in three-dimensional space. Inzh.-fiz.zhur. no.2:22-31 F '58. (MIRA 13:1)

1. Institut energetiki AN BSSR, Minsk.
(Heat--Conduction) (Approximate solutions)

AUTHORS: Loginov, L.I. and Syrovtseva, N.N. SOV/170-59-3-17/20

TITLE: On the Roots of the Equation $J_0(x)Y_1(kx) - J_1(kx)Y_0(x) = 0$ (O kornyakh uravneniya $J_0(x)Y_1(kx) - J_1(kx)Y_0(x) = 0$)

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1959, Nr 3, pp 112-114 (USSR)

ABSTRACT: In the problems of mathematical physics applied to technique occurs sometimes the transcendent equation cited in the title where $J_0(x)$ and $J_1(kx)$ are Bessel functions of the first kind of the zeroth and first order respectively; $Y_0(x)$ and $Y_1(kx)$ are Bessel functions of the second kind of the zeroth and first order respectively, and k is a constant. The roots of this equation were investigated by Sasaki [Ref. 1], Bogert [Ref. 2] and others. However, Sasaki's semi-convergent series for the roots are not suitable for direct calculations, and the value of the roots computed by other investigators are confined to small values of k-parameter. Yet in some problems, as e.g. in determination of temperature stresses in a thickness of concrete, it is necessary to know the first root of the equation for considerably larger k-values. The authors computed the values of the first root of the above-cited equation for the k-value varying within the following limits $12 \leq k \leq 130$ and plotted these values on the graph given in the

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On the Roots of the Equation $J_0(x)Y_1(kx) - J_1(kx)Y_0(x) = 0$

paper. The authors thank P.P. Yushkov for his advices in preparing this paper.
There are: 1 graph and 3 non-Soviet references.

ASSOCIATION: Tekhnologicheskiy institut kholodil'noy promyshlennosti (Technological Institute of Refrigeration Industry), Leningrad

DOBRYNIN, Yevgeniy Mikhaylovich; LOGINOV, L.I., inzh., retsenzent; SHCHEDROVITSKIY, S.S., kand.tekhn.nauk, red.; AKIMOVA, A.G., red.izd-va; SOROKINA, G.Ye., tekhn.red.

[Devices for use in the automatic control of industrial processes] Pribory avtomatizatsii proizvodstvennykh protsessov. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. (MIRA 13:12)
190 p.
(Automatic control)
(Electronic apparatus and appliances)

PHASE I BOOK EXPLOITATION SOV/4397

Nauchno-tekhnicheskoye obshchestvo priborostroitel'noy promyshlennosti

Priborostroyeniye i izmeritel'naya tekhnika (Instrument Manufacture and Measurement Technique) Moscow, Mashgiz, 1960. 462 p. Errata slip inserted. 3,000 copies printed.

Ed.: A.N. Gavrilov, Doctor of Technical Sciences, Professor; Tech. Ed.: A. Ya. Tikhanov; Managing Ed. for Literature on Machine and Instrument Construction (Mashgiz): N.V. Pokrovskiy, Engineer.

PURPOSE: This collection of articles is intended for scientific and technical personnel in the instrument industry.

COVERAGE: The 23 articles deal with the present state and the outlook for the development of instrument manufacture and measurement technique. New problems of design, construction, and manufacture of instruments are discussed in the first two sections. Emphasis is given to problems of automation and mechanization of production and to the application of new techniques in program control, ultrasonics, and chipless working of metals. The third section deals with new

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measurement methods involving the use of ultrasonics and radio isotopes. Some theoretical aspects of metrology and measurement technique are also discussed in this section. No personalities are mentioned. References accompany several of the articles.

TABLE OF CONTENTS:

Instrument Manufacture and Measurement Technique SOV/4397

AVAILABLE: Library of Congress

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VK/pw/mas
10-24-60

LOGINOV, L. I.

Manufacture of scientific instruments in England. Priborostroenie no.11:28-32 N '60. (MIRA 13:11)
(Great Britain--Instruments)

84269

S/170/60/003/010/014/023
B019/B054

11.9500
11.9400

AUTHORS: Loginov, L. I., Yushkov, P. P.

TITLE: The Numerical Integration of the Equation System for the Heat-mass Exchange With the Aid of Implicit Formulas

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 10, pp. 93-96

TEXT: The authors study the numerical integration of the differential equation system for the heat- and mass transfer. They restrict themselves to the one-dimensional case, and assume that all transfer coefficients are constant:

$$\partial t/\partial \tau = a\partial^2 t/\partial x^2 + b\partial u/\partial \tau \qquad (b = \varepsilon\varrho/c) \qquad (6)$$

$$\partial u/\partial \tau = a'\partial^2 u/\partial x^2 \qquad (-R \leq x \leq R) \qquad (7)$$

The corresponding boundary and initial conditions are given by (8) - (10). A. V. Lykov (Refs. 3, 4) had already studied this system. A numerical integration of this system by explicit formulas had been described by Yushkov (Ref. 5). For the boundary and initial conditions (9) and (10),

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The Numerical Integration of the Equation System for the Heat-mass Exchange With the Aid of Implicit Formulas

the authors introduce the analogous difference formulas (11) and (12), and derive the implicit difference formulas (13) - (14) analogous to (6) - (7). These implicit difference formulas are somewhat more complex than the explicit ones, but they permit an increase of the step. Finally, the authors give the formulas (15) for the numerical integration in the case in which a system of four equations with four unknowns is to be solved. There are 1 figure and 5 references: 4 Soviet and 1 British.

ASSOCIATION: Institut energetiki AN BSSR, g. Minsk
(Institute of Power Engineering of the AS BSSR, Minsk)

SUBMITTED: March 8, 1960

Card 2/2

LOGINOV, L. I., and YUSHKOV, P. P.

"The Numerical Method of Integration of one System of Heat and Mass Transfer Differential Equations in the Case of Variable Physical Properties."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

ORSHANSKIY,D.L.,gl.red.ARUTYUNOV, K.B., red.; VORONOV, A.A., red.; KARANDEYEV, K.B., red.; KARIBSKIY, V.V., red.; KRASIVSKIY, S.P., red.; KULEBAKIN, V.S., red.; LOGINOV, L.I., red.; LUKIN, V.I., red.; MALOV, V.S., red.; PAVLENKO, V.A., red.; PETROV, B.N., red.; RAKOVSKIY, M.Ye., red.; SMAGLY, L.V., red.; SMIRNOV, A.D., red.; SOTSKOV, B.S., red.; STEFANI, Ye.P., red.; TRAPEZNIKOV, V.A., red.; TSAREVSKIY, Ye.N., red.; LEONOVA, Ye.I., tekhn. red.

[EIKA; encyclopedia of measurements, control and automation]EIKA; entsiklopediia izmerenii kontrolia i avtomatizatsii. Moskva, Gosenergoizdat. No.1. 1962. 243 p. (MIRA 16:3)

(Instruments) (Automation) (Mensuration)

L 29672-66 EWP(k)/EWT(m)/EWP(t)/ETI IJP(c) JD/HW

ACC NR: AP6008607 SOURCE CODE: UR/0136/65/000/011/0101/0106

36
B

AUTHOR: Loginov, L. M.

ORG: none

TITLE: Development of the technology of hot rolling of copper-zinc alloys

SOURCE: Tsvetnyye metally, no. 11, 1965, 101-106

TOPIC TAGS: hot rolling, copper alloy, zinc alloy, metal sheet/L62 copper-zinc alloy, L70 copper-zinc alloy, L90 copper-zinc alloy, M2 copper-zinc alloy

ABSTRACT: To develop more productive hot rolling techniques for copper-zinc alloys, experiments were performed at the Department of Pressure Forming of Metals of the NIIPTMASh and the Artemovsk Plant im. E. I. Kviring (Otdel obrabotki metallov davleniyem NIIPTMASh i Artemovskiy zavod). Alloys L62, L70, L90, and M2 were used with the reversible hot rolling machine duo 800 x 1350. Metal pressure on the rolls, specific pressure, torque, power, and load on the machine drive were measured over a range of rolling parameters using the latest instrumentation. Sample tables of the experimental results and curves of specific pressure as a function of $\sqrt{\frac{R\Delta h}{h_{cp}}}$ (R is the roll radius, Δh is the reduction in mm per pass, h_{cp} is the average thickness of the rolled strip) and of specific power as a function of

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ACC NR: AP6008807 0

total elongation are presented. Based on a critical review of the normal operating parameters, new operating regimes were established to exploit the full capacities of the rolling mill. With the new parameters 4.5 x 645 mm strip of L62 alloy could be rolled in 5 instead of 9 passes, 6 x 745 strip in 7 instead of 9 passes, and 6 x 645 mm strip of L90 or L70 alloy could be rolled in 9 instead of 11 passes (all from 144 x 600 x 1300 mm blanks). Orig. art. has: 2 figures, 2 tables, and 4 formulas.

SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 009

Card 2/2 CC

LOGINOV, L.N.

Replacing bronze by antimonial cast iron. Mashinostroitel' no. 5:11 My '64. (MIRA 17:7)

LOGINOV, M.

Experience of regular production conferences. Avt. transp. 36 no. 6:49-50 Je '58. (MIRA 11:7)

1. Predsedatel' mestkoma Kovrovskogo avtokhozyaystva.
(Factory management)

LOGINOV, M.

Kovrov highway transport workers help agriculture. Avt. transp. 39 no.5:54 My '61. (MIRA 14:5)

1. Predsedatel' profsoyuznogo komiteta Kovrovskoy avtotransportnoy kontory.

(Kovrov—Highway transport workers)

LOGINOV, M.A., inzhener.

Checking the wear in boiler tubes. Energetik 4 no.7:34 Jl '56.
(Boilers) (MIRA 9:9)

AID P - 3703

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 8/25

Author : Loginov, M. A., Eng.

Title : Injury to the turbine blading

Periodical : Energetik, 12, 14, D 1955

Abstract : The author describes a case of damage to a turbine blading, its causes and the repair work done.

Institution : None

Submitted : No date

NASYROV, Yu.S.; GILLER, Yu.Ye.; LOGINOV, M.A.; LEBEDEV, V.N.

Using C^{14} for studying the photosynethetic balance in the plants of phytocoenoses. Bot.zhur. 47 no.1:96-99 Ja '62. (MIRA 15:2)

1. Laboratoriya fiziologii i biofiziki rasteniy AN Tadzhikskoy SSR, Dushanbe.

(Plant communities) (Photosynthesis)

NASYROV, Yu.S., otv. red.; SAPOZHNIKOV, D.I., red.; PROKOF'YEV, A.A., red.; ZALENSKIY, O.V., red.; MAKSUMOV, A.N., red.; KARIMOV, Kh.Kh., red.; LOGINOV, M.A., red.; GILLER, Yu.Ye., red.; USMANOV, P.D., red.; KAS'YANENKO, A.G., red.; RAKHMANINA, K.P., red.

[Contribution of plant physiology to agriculture; problems of photosynthesis and metabolism] Fiziologiia rastenii - sel'skomu khoziaistvu; voprosy fotosinteza i obmena veshchestv. Dushanbe, Izd-vo AN Tadzhikskoi SSR, 1965. 131 p. (MIRA 18:4)

1. Akademiya nauk Tadzhikskoy SSR, Dushanbe. Institut fiziologii i biofiziki rastenii.

[illegible]-65 EWG(j)/EWG(r)/EWT(l)/FS(v)-3/EWG(v)/EWG(a)-2/EWG(c) Pb-4/Pe-5 DD
ACCESSION NR: AR5008611 S/0299/65/000/004/G008/G008

SOURCE: Ref. zh. Biologiya. Svodnyy tom, Abs. 4G67

AUTHOR: Loginov, M. A.; Nasyrov, Yu. S.

TITLE: Photosynthesis in some cultivated plants

CITED SOURCE: Tr. Otd. fiziol. i biofiz. rast. AN TadzhSSR, v. 3, 1964, 49-67

TOPIC TAGS: photosynthesis, agricultural crop, steppe productivity, sedge fescue steppe, beet photosynthesis, barley photosynthesis, sunflower photosynthesis, plant productivity, transpiration, assimilative capacity, moisture consumption

TRANSLATION: Using beets, barley and sunflower as examples, the authors studied the [illegible] between the diurnal and seasonal variations in photosynthesis [illegible] method, the pure productivity [illegible] intensity of transpiration [illegible] capacity [illegible] economical consumption of moisture. Beets are [illegible] rate of photosynthesis. Barley shows a high intensity of potential photosynthe-

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ACCESSION NR: AR5008611

at the beginning of its development; a second maximum in the photosynthesis curve appears at the beginning of August (in the heading phase). In contrast to wild flora, cultivated agricultural crops show a high assimilative capacity over the course of a long period (60-70 days), which results in high productivity. In these plants, the majority of the products of photosynthesis are used for the formation of economically valuable organs. Thus, [illegible] rate of photosynthesis and [illegible] accumulate 70-80 metric centners of overall biological yield, or 40-50 metric centners of above-ground mass, per hectare per season, which is 3-4 times as high as the productivity of the natural vegetation of a sedge-fescue steppe, when cultivated under dry conditions, these crops have a low transpiration coefficient (200-350). All of this points up the necessity of replacing the natural vegetation by cultivated crops. V. Korshunova

SUB CODE: LS ENCL: 00

Card 2/2

NASYROV, Yu.S.; LOGINOV, M.A.

Study of the photosynthetic balance of herbaceous plant phytocenoses. Bot. zhur. 49 no.1:30-38 Ja '64. (MIRA 17:2)

1. Otdel fiziologii i biofiziki rasteniy AN Tadzhikskoy SSR, Dushanbe.

AID P - 5104

Subject : USSR/Engineering

Card 1/1 Pub. 110-a - 7/18

Authors : Man'kina, N. N., M. D. Loginov, and T. A. Sashina, Engineers.

Title : Prevention of the formation of copper scum by using sodium hexametaphosphate.

Periodical : Teploenergetika, 10, 33-36, O 1956

Abstract : Methods are examined for slowing down and preventing the formation of copper scum on pipes of steam boilers. 6 diagrams. 3 references.

Institution : All-Union Heat Engineering Institute

Submitted : No date

Loginov, M.F.

123-1-800

Translation from: Referativnyy Zhurnal, Mashinostroyeniye, 1957, Nr 1, p. 121 (USSR)

AUTHOR: Loginov, M. F.

TITLE: Tunnel-type Furnace for Thermal Straightening of Capacitor Plates (Pech tunel'nogo tipa dlya termorikhtovki)

PERIODICAL: Obmen opytom. Min-vo radiotekhnich. prom-sti SSSR, 1955, Nr 8-9, pp. 16-19

ABSTRACT: The author reports that the Ministry of radio-technical industry plant has constructed and put into operation a tunnel-type electric furnace of 36 kw capacity for straightening plates for standard units of variable capacitors. The furnace's dimensions are 3,000 x 1,500 x 1,200 mm with the 1,600 x 345 x 460 mm of working space. The furnace is equipped with a chain conveyer, with 100 mm pitch and 332 mm distance between the chains. The plates are laid into special compartments, size of which corresponds to the width of the conveyer's belt. The furnace can handle simultaneously 12 to 15 fittings with the plates for heating and soaking under the

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123-1-800

Tunnel-type Furnace for Thermal Straightening of Capacitor Plates (Cont.)

automatically controlled temperature of 320 to 340°. The soaking time is regulated within 18 to 36 minutes.

B.G.I.

Card 2/2

KORABLEV, Yu.I., red.; LOGINOV, M.I., red.

[CPSU and the build-up of the Soviet Armed Forces, 1918-June 1941] KPSS i stroitel'stvo vooruzhennykh sil SSSR, 1918-iun' 1941. Moskva, Voen.izd-vo M-va obor.SSSR, 1959. 450 p. (MIRA 13:8)

(Russia--Armed forces)

LOGINOV, Mariya Kapitonovna; LUR'YE, Dzhan Aliyevich; NEMKOVSKIY, Mikhail Il'ich; ORLEANSKIY, Yakov Pavlovich; SAVITSKIY, Aron Yakovlevich; SHUBIN, Vladimir Petrovich; MYLKO, M.N., kand. tekhn. nauk, retsenzent; POLYAKOVA, D.I., red.; BYKOVSKIY, A.I., red.; GORNOSTAYPOL'SKAYA, M.S., tekhn. red.

[Album of equipment for the mechanization of foundries]Al'bom sredstv mekhanizatsii liteinykh tsekhov. [By] M.K.Loginova i dr. Moskva, Mashgiz, 1962. 131 p. (MIRA 15:10)
(Foundries--Equipment and supplies)

Loginov, M.M.

SOV/124-58-4-4341D

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 4, p 93 (USSR)

AUTHOR: Loginov, M.M.

TITLE: Reduction of Seepage Losses in Shallow Irrigation Canals by Means of Smoothing the Inner Surface of the Canals With a Flattener at Stavropol (Umen'sheniye fil'tratsionnykh poter' vody v kanalakh melkoy orositel'noy seti metodom zatiraniya vnutrenney poverkhnosti kanalov utyugom v usloviyakh Stavropol'ya)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to the Novocherk. inzh.-melior. in-t (Novocherkassk Institute of Reclamation Engineering), Novocherkassk, 1957

ASSOCIATION: Novocherk. inzh.-melior. in-t (Novocherkassk Institute of Reclamation Engineering), Novocherkassk

1. Irrigation systems--Maintenance

Card 1/1

30653

S/105/61/000/011/001/002
E140/E563

9.3230 (1013, 1147, 1121)

AUTHORS: Bogolyubov, V Ye , Doctor of Technical Sciences, Shamayev, Yu.M , Candidate of Technical Sciences and Loginov, M.N. , Engineer

TITLE: Transient processes in reactive networks containing transformers with square-loop ferrites

PERIODICAL: Elektrichestvo, no 11, 1961, 60-64

TEXT: The transient processes in reactive networks containing transformers with square-loop ferrites are solved taking into account the change of the dynamic hysteresis curve as a function of the rate of change of magnetization. The problem is solved by introducing the surface defined by

$$(H - H_o) \cdot g(B) \frac{dB}{dt} \qquad (1)$$

where H is the external field intensity, $2H_o$ is the width of the idealized rectangular static hysteresis loop, g(B) is the experimentally determined specific dynamic conductance and dB/dt is the rate of variation of magnetic induction in the core. On the basis of known approximations to the experimental curves, an

Card 1/2

approximate expression is obtained solving this differential equation and giving the curve of variation of B as a function of the ratio of B to the saturation induction B_s. To simplify calculations the assumption is made that the input pulse is rectangular and that the static hysteresis loop has a constant width. It is stated that these assumptions are not essential to the method but are merely introduced for simplification. The initial equations for the solution consist of Eq (1) an equation expressing the law of conservation of current and Kirchhoff s second law. The equations are solved in the phase plane to supply families of curves from which the output waveforms of such a system can be obtained In the Appendix a simple way is described for rapid calculation of the curves in the phase plane There are 5 figures, 2 tables and 7 Soviet references

ASSOCIATION: Moskovskiy energeticheskiy institut
(Moscow Power Engineering Institute)

SUBMITTED: December 31 1960

BOGOLYUBOV, V.Ye., doktor tekhn.nauk; SHAMAYEV, Yu.M., kand.tekhn.nauk;
LOGINOV, M.N., inzh.

Transient processes in a network containing capacitance or inductance and ferromagnetic substances with rectangular hysteresis loops.
Elektrichestvo no.11:60-64 N '61. (MIRA 14:11)

1. Moskovskiy energeticheskiy institut.
(Electric networks) (Transients (Electricity))

LOGINOV, N.

Volgo-Donskii sudokhodnyi kanal. [The Volga-Don Navigation Canal] (Propaganda i agitatsiia, 1951, no. 6, p. 51-54). DLC: Slavic unclass.

SO: SOVIET TRANSPORTATION AND COMMUNICATIONS, A BIBLIOGRAPHY, Library of Congress Reference Department, Washington, 1952, Unclassified.

LOGINOV, N.

Seven-year plan for the Baltic fleet. Mor. flot 19 no.5:4-6 My '59. (MIRA 12:7)
(Baltic Sea--Merchant marine)

LOGINOV, N. (Moskovskaya oblast')

Preventing the inflammation of air-dryed peat. Pozh.delo 3 No.6:10 Je '57. (MLRA 10:7)

(Peat Industry)

LOGINOV, N.

Athletes of the Leningrad Administration of the Food Industry.
Obshchestv. pit. no.1:36 Ja '58. (MIRA 11:3)

1.Instruktor fizkul'tury Lennarpita.
(Leningrad--Food industry--Employees)
(Sports)

LOGINOV, N.

Physical education enthusiasts of Leningrad. Obshchestv. pit. no.11: 56-57 N '58. (MIRA 11:12)

1.Starshiy instruktor-metodist fizkul'tury Lennarpita.
(Leningrad--Physical education and training)

USSR/General Problems of Pathology - Tumors. Comparative Oncology. Tumors of Man U

Abs Jour : Ref Zhur Biol., No 6, 1959, 27473

Author : Loginov, N.A.
Inst : --
Title : Polypous Disease of the Stomach

Orig Pub : V sb.: Materialy po bor'be so zlokachestv. opukholyami, Ufa, Vyp. 8, 1956, 13-16

Abstract : No abstract.

Card 1/1

LOGINOV, N.A.

Trade school of agricultural mechanization. Nauka i pered.op.v sel'-khoz.7 no.1:17-20 Ja '57. (MLRA 10:2)
(Farm mechanization--Study and teaching)

5(2)
AUTHORS: Ivanovskiy, L. Ye., Loginov, N. A., Smirnov, M. V.

SOV/75-13-6-10/21

TITLE: Determination of Bi- and Trivalent Titanium in Chloride Melts by Ferric Chloride (Opredeleniye dvukh- i trekhvalentnogo titana v khloridnykh rasplavakh posredstvom khlornogo zheleza)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 6, pp 671-673 (USSR)

ABSTRACT: A thorough investigation of the electrolysis of salt melts containing titanium requires a separate determination of bi- and trivalent titanium in the electrolyte. The determination methods (Refs 1,2) hitherto known do not always yield satisfactory results. For direct determination of the valences of titanium in the salt melt the oxidation of titanium with ferric chloride immediately in the melt with a parallel determination of the trivalent Ti in an aqueous electrolyte solution is most suitable. This method, however, is complicated by the thermal dissociation and the volatility of $FeCl_3$. At high temperatures ferric chloride is considerably decomposed. It is, therefore, useful not to melt the sample to be analyzed with pure $FeCl_3$ but with its melts formed with alkali metal chlorides. For

Determination of Bi- and Trivalent Titanium in Chloride Melts by Ferric Chloride

SOV/75-13-6-10/21

the production of such ferric chloride melts anhydrous $FeCl_3$ which does not contain $FeCl_2$ is molten with the eutectic mixture of KCl and LiCl at 450-500° in the chlorine current. In concentrations of $FeCl_3 < 5$-6 per cent by weight a homogeneous melt is obtained. In higher concentrations a second liquid phase is separated on the bottom. This phase has a constant composition and represents a solution of KCl in $KFeCl_4$. After cooling it forms yellow anisotropic crystals with a melting-point of 260 ± 2°. The upper layer is saturated with $KFeCl_4$. This phase separation occurs only in the melt of $FeCl_3$ with LiCl + KCl, but not in the melts of $FeCl_3$ with NaCl, with LiCl and KCl. $FeCl_2$ formed by thermal dissociation concentrates in the upper layer only. $KFeCl_4$ is more stable against thermal dissociation than $FeCl_3$. For the oxidation of titanium in the melt, $KFeCl_4$ from the lower layer of the ferric chloride

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melt is used therefore instead of pure $FeCl_3$. If this $KFeCl_4$ is added to the melt which contains the titanium to be determined (in amounts only somewhat larger than that required for the oxidation of titanium) and allows then the melt to cool as quickly as possible, a minimum formation of $FeCl_2$ may be obtained by thermal dissociation. Accordingly, a method for the separate determination of bi- and trivalent titanium in salt melts has been devised. The procedure is described in detail. The sum of bi- and trivalent titanium results from the determination of the $FeCl_2$ in the solution of the cooled melt which was formed in the reduction of ferric chloride. The content of trivalent titanium is determined in part of the original melt (before the addition of $KFeCl_4$). This method yields very accurate results. There are 3 tables and 4 references, 2 of which are Soviet.

Determination of Bi- and Trivalent Titanium in Chloride Melts by Ferric Chloride

507/75-13-6-10/21

ASSOCIATION: Institut khimii Ural'skogo filiala AN SSSR, Sverdlovsk
(Sverdlovsk Chemical Institute of the Ural Branch, AS USSR)

SUBMITTED: April 27, 1957

Card 4/4

S/137/62/000/008/008/065
A006/A101

AUTHORS: Smirnov, M. V., Loginov, N. A., Tsiovkina, L. A.

TITLE: Behavior and equilibrium potentials of titanium in mixed fluoride-chloride melts

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1962, 21 - 22, abstract 8G160 ("Tr. In-ta elektrokhimii. Ural'skiy fil. AN SSSR", 1961, no. 2, 29 - 40)

TEXT: The authors studied interaction of Ti metal with fluoride-chloride melts containing Ti in 3- and 4-valent state. It is shown that in the presence of an excessive amount of alkali-metal fluoride, a Ti^{2+} compound is being formed whose composition is Me_2TiF_4 and which is poorly soluble in molten mixtures of alkali-metal chlorides and fluorides. It is found that the behavior of a Ti-electrode in mixed fluoride-chloride melts is like the behavior of a second-type electrode; its potential does not depend upon the nominal Ti content in the electrolyte and is wholly determined by the concentration of fluor ions $[F^-]$ according to equation $E = - 2.66 - 4.10 \cdot 10^{-4} T - 3.97 \cdot 10^{-4} T \lg [F^-]^b$ in relation

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S/137/62/000/008/008/065
A006/A101

Behavior and equilibrium potentials of...

to the comparison chlorine electrode. On the basis of experimental data an equation is obtained for the temperature dependence of the product of $MeTiF_4$ solubility in mixed fluoride-chloride melts: $L_p = [Ti^{2+}][F^-]^4$; $\lg L_p = -4.868 - 2701/T$.

G. Svodtseva

[Abstracter's note: Complete translation]

Card 2/2

S/081/62/000/018/019/059
B226/B186

AUTHORS: Smirnov, M. V., Yushina, L. D., Loginov, N. A.

TITLE: The corrosion of titanium in saline melts

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 18, 1962, 305, abstract 18I152 (Tr. In-ta elektrokhimii. Ural'skiy fil. AN SSSR, no.2, 1961, 135 - 143)

TEXT: The corrosion rate of Ti in saline melts of different compositions is studied as a function of the temperature, atmosphere and purity of the metal. Anode polarization curves of Ti are plotted for various corrosion rate conditions. The electrochemical nature of the corrosion of metallic Ti in molten saline media is established. [Abstracter's note: Complete translation.]

Card 1/1

LOGINOV, N.A.; SMIRNOV, M.V.

Oxidation-reduction potential of Ti^{3+} / Ti^{4+} and equilibrium constant of the reaction $3Ti^{4+} + Ti \rightleftarrows 4Ti^{3+}$ in an equimolar mixture of sodium and potassium chloride melts. Trudy Inst. elektrokhim. UFAN SSSR no.3:17-24 '62. (MIRA 16:6)

(Electrodes, Titanium)
(Oxidation-reduction reaction)
(Fused salts)

S/200/62/000/004/001/002
D204/D307

AUTHORS: Smirnov, M.V., and Loginov, N.A.

TITLE: Study of the equilibrium between metallic titanium and its di- and trivalent ions in molten NaCl-KCl, by the method of equilibrium potentials

PERIODICAL: Akademiya nauk SSSR. Sibirskoye otdeleniye. Izvestiya, no. 4, 1962, 64 - 72

TEXT: The authors studied the reaction $2Ti^{3+}_{(melt)} + Ti_{(solid)} \rightleftharpoons 3Ti^{2+}_{(melt)}$, to demonstrate the usefulness of the method of equilibium potentials, in an equimolar melt of NaCl-KCl containing 0.23, 0.7, 1.4 and 5.64 % Ti, between 701 and 975°C. The theoretical background is given. Equilibrium potentials of the Ti electrode were measured under argon against a comparison chlorine electrode, with an accuracy of ± 1 mv, at a series of temperatures maintained within ± 1.5°C. The temperature dependence is of standard electrode potentials were found to be $E^{o}_{Ti/Ti^{2+}} = - 2.382 + 4.83 \times 10^{-4}T$, $E^{o}_{Ti/Ti^{3+}} = - 2.158 +$

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Study of the equilibrium between ...

+ 3.164 x 10^{-4}T and $E^{o}_{Ti^{2+}/Ti^{3+}}$ = - 1.710 - 0.17 x 10^{-4}T volts. Calculations showed the titanium to be predominantly (99 - 87 %) in the divalent state in the above melts, although disproportionation to Ti^{3+} and Ti was favoured by increasing the temperature and the overall Ti content in the fused chlorides. Thermodynamics of the $TiCl_3$/ /NaCl-KCl (fused) system are discussed and the heat of mixing of liq. $TiCl_3$ with the above melt is estimated at - 11.8 kcal/mole, showing that anionic complexes should form under such conditions, with Ti-Cl bonds stronger than those in pure liq. $TiCl_3$. The equilibrium constant for the reaction varied with temperature according to log K = = - 5.038 + 6774/T. The isobar potential for the reaction ΔZ = = 30951 - 23.02 T cal., proved that Ti^{2+} is unstable in chloride melts above 1070°C. There are 4 tables.

ASSOCIATION: Ural'skiy filial AN SSSR, Sverdlovsk (The Urals Branch of AS USSR, Sverdlovsk)

SUBMITTED: May 5, 1961

Card 2/2

LOGINOV, N.A.; SMIRNOV, M.V.

Current efficiency in the anodic dissolution of titanium in chloride and mixed fluoride-chloride melts. Trudy Inst. elektrokhim. UFAN SSSR no. 4:29-33 '63. (MIRA 17:6)

L 14032-66 EWT(1)/ETC(m)-6/ETC(F)/EWG(m) JW

ACC NR: AR5020041 SOURCE CODE: UR/0081/65/000/012/B069/B069

AUTHOR: Smirnov, M.V.; Loginov, N.A. 3

ORG: none B

TITLE: Thermodynamics of some of the reactions of titanium chloride in a NaCl-KCl melt

SOURCE: Ref. zh. Khimiya, Abs. 12B478

REF SOURCE: Tr. In-ta elektrokhimii. Ural'skiy fil. AN SSSR, vyp. 6, 1965, 5-9

TOPIC TAGS: thermodynamic, titanium, titanium compound, chloride

TRANSLATION: On the basis of experimental data and literature, a calculation was made of the thermodynamic values ($\Delta G, \Delta H, \Delta S$) of the reactions in forming $TiCl_2$, $TiCl_3$, and $TiCl_4$ from elements in a NaCl-KCl melt and of the reactions due to interactions between these compounds in the given medium with titanium, chlorine, metallic sodium, oxygen and steam. Author's resume.

SUB CODE: 07

Card 1/1

STOBROVSKIY, N.G. LOGINOV, N.F., kandidat tekhnicheskikh nauk, redaktor. DRUZHININSKIY, M.V., redaktor; inzhener-mayor; SRIBNIS, M.V., tekhnicheskiy redaktor.

[Our country is the birthplace of aeronautics] Nasha strana-rodina vozdukhoplavaniia. Pod red. N.F. Loginova. Moskva, Voen.izd-vo Ministerstva oborony Soiuza SSR, 1954. 101 p. (MLRA 8:9)
(Aeronautics--History)

AUTHORS: Antipov, V. P., Loginov, N. F. SOV/50-58-7-2/20

TITLE: Methods of Calculation of the Vertical Range of Radiosondes With Respect to the Strength of the Envelope Gas Bag at Low Temperatures (Metod rascheta vysoty pod"yema radiozondov s uchetom prochnosti obolochek pri nizkikh temperaturakh)

PERIODICAL: Meteorologiya i gidrologiya, 1958, Nr 7, pp. 11-17 (USSR)

ABSTRACT: From the practical use of radiosondes with synthetic latex envelope gas bags it is known that they often do not reach the calculated height. As reasons for the reduction of the vertical range of radiosondes have hitherto been assumed: a) the destruction of the gas bags after their freezing in the stratosphere as well as under the action of local overstress and under the influence of ozone in the height, b) the balancing of the radiosondes in lower heights than the calculated ones in consequence of the reduction of the buoyancy up to the value of the gross weight. In the present paper the authors describe the aerostatic method of calculation of radiosondes taking into consideration the strength of the gas bags at low temperatures. The vertical range of radio-

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Methods of Calculation of the Vertical Range of Radiosondes With Respect to the Strength of the Envelope Gas Bag at Low Temperatures

sondes during day time and during the night was calculated by means of this method. The data necessary for the calculation were taken from the laboratory experiments with "nayrite-latex" (nairitovyy) gas bags for two-dimensional expansion. The basic characteristics are shown (Table 1). The temperature values of the surrounding air, of the gas bag and of the carrier gas are necessary for the calculation. The diagrams (Figs 1 and 2) were made on the strength of the calculations carried out. As a supplement to the obtained results it must be mentioned that it is impossible to take into account the action of ozone upon the strength of the gas bag, the concentration of the stress on single sections of the bag, the differences in the expansion velocity of the bag etc. The influence of these factors on the vertical range of the radiosonde can be detected only by the introduction of experimental coefficients into the calculations. These can be determined by means of special experiments. As a summary it is stated that the characteristics of the ascent of radiosondes depend in the first place on the elastic properties of the latex gas bags at low temperatures. Therefrom it may

Methods of Calculation of the Vertical Range of Radiosondes With Respect to the Strength of the Envelope Gas Bag at Low Temperatures

be concluded that the initial thickness of the gas bags has to be chosen so that it guarantees maximum prolongations even at destructive stresses. Gas bags which are mass-produced have originally a film of 0,015 cm thickness which represents an optimum thickness for the gas bags used at positive temperatures. The most favorable initial thickness for radiosondes ascending into the stratosphere for low temperatures (up to -60°) must be determined experimentally. Finally it may be stated that 1) the increase of the elasticity of the latex bags by the production of new materials or by treating the materials existing at present with special plastifiers, and 2) the reduction of the degree of filling of the gas bag on the ground are the basic conditions for reaching a greater vertical range of the radiosondes. However, these methods reduce the velocity of ascent. The weight of the apparatus has to be reduced in order to maintain the velocity of ascent. There are 2 figures, 2 tables, and 2 Soviet references,

30V/50-58-7-2/20

Methods of Calculation of the Vertical Range of Radiosondes With Respect to the Strength of the Envelope Gas Bag at Low Temperatures

1. Radiosondes--Range determination 2. Balloons--Mechanical properties
3. Gases--Properties 4. Mathematics

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5(4) SOV/20-121-4-31/54

AUTHORS: Smirnov, M. V., Ivanovskiy, L. Ye., Loginov, N. A.

TITLE: The Equilibrium Potentials of Titanium in Chloride Melts (Ravnovesnyye potentsialy titana v khloridnykh rasplavakh)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 4, pp 685-688 (USSR)

ABSTRACT: The authors measured the equilibrium potentials in pure argon in a hermetically closed wide test tube of quartz. On the bottom of this tube there was an eutectic mixture of lithium chloride and potassium chloride. An electrode of titanium iodide was fastened to a molybdenum feeder and it was immersed in a salt melt of the same composition. The potential of the titanium electrode was measured with respect to a lead electrode. The results of the measurements, (with respect to a chlorine electrode of comparison) are given in a diagram which demonstrates the dependence of the electromotive force on the temperature for various given concentrations of the titanium in the electrolyte. The experimental points agree well with straight lines. Another diagram shows the isothermal lines deduced from the above-mentioned results for 700, 800,

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The Equilibrium Potentials of Titanium in Chloride Melts

900, and 1000°K. The equilibrium potential of the metallic titanium electrode in chloride melts which contain less than 6 weight % of titanium depends on its molar concentration in the electrolyte according to the following thermodynamical equation:

$$E = E^{o}_{Ti/Ti^{2+}} + (2,3\ RT/2F)\ lg\left[Ti^{2+}\right].$$

This shows that such melts contain ions of divalent titanium and behave as ideal solutions. The quantity $E^{o}_{Ti/Ti^{2+}}$ may be found from the above-mentioned experimental data, $E^{o}_{Ti/Ti^{2+}} = (-2,371 + 6,09.10^{-4}T)V$ is obtained with respect to the chlorine electrode. For the calculation of the isobaric potential for the composition of the liquid titanium dichloride from the elements the equation $\Delta Z = (-109\ 360 + 27,03\ T)$ cal/mol $TiCl_2$ may be used. There are 4 figures and 12 references, 3 of which are Soviet.

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SOV/2o-121-4-31/54

The Equilibrium Potentials of Titanium in Chloride Melts

ASSOCIATION: Laboratoriya elektrokhimii Ural'skogo filiala Akademii nauk SSSR
(Laboratory of Electrochemistry of the Ural Branch, AS USSR)

PRESENTED: April 11, 1958, by A. N. Frumkin, Academician

SUBMITTED: March 25, 1958

Card 3/3

S/020/61/136/006/020/024
B101/B203

AUTHORS: Smirnov, M. V., Tsiovkina, L. A., and Loginov, N. A.

TITLE: Redox potential of the system Ti^{2+}/Ti^{3+} and equilibrium constant of the reaction $2Ti^{3+} + Ti \rightleftarrows 3Ti^{2+}$ in chloride melts

PERIODICAL: Doklady Akademii nauk SSSR, v. 136, no. 6, 1961, 1388-1391

TEXT: For the reaction $Ti^{3}_{melt} + 0.5Ti_{solid} \rightleftarrows (3/2)Ti^{2}_{melt}$ (1) studied by several researchers, the temperature dependence of the equilibrium constant has not been clearly defined as yet. The redox potential of the system Ti^{2+}/Ti^{3+} was only studied by J. A. Menzies et al (Ref. 4). In this case, $TiCl_3$ was potentiometrically titrated with hydrogen in eutectic LiCl - KCl melt. The authors repeated this experiment at 700°C. Fig. 1 shows the curves for three experiments. They do not correspond to the equation $E = E^{o}_{Ti^{2+}/Ti^{3+}} + (RT/F)\ln([Ti^{3+}]/[Ti^{2+}])$. Hence, the authors

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Redox potential of the system...

conclude that in the potentiometric titration with hydrogen not $E^{o}_{Ti^{2+}/Ti^{3+}}$ was measured, but only the potential which corresponds to the equilibrium in the system $TiCl_{3\ melt} + 0.5H_{gas} \rightleftharpoons TiCl_{2\ melt} + HCl_{gas}$. To obtain the value $E^{o}_{Ti^{2+}/Ti^{3+}}$, the authors conducted the potentiometric titration with metallic titanium. The initial salt solution was prepared by blowing $TiCl_4$ vapor through an equimolar mixture of NaCl and KCl. The redox potential was measured by a molybdenum electrode referred to a chlorine electrode. For a rapid balancing of the concentration of Ti^{2+} and Ti^{3+} in the melt, the molybdenum electrode rotated at 60 rpm. The potentiometric curves of Fig. 3 were obtained. Their course depends on experimental conditions (temperature, concentration, intermixture). But all of them show the typical salient point which corresponds to the redox potential $E^{o}_{Ti^{2+}/Ti^{3+}} = 1.726 \pm 0.005$ v (referred to chlorine electrode).
On the basis of the earlier established $E^{o}_{Ti/Ti^{2+}} = (-2.371+6.09 \cdot 10^{-4}T)$ v,

Redox potential of the system...

the authors calculate $E^{\circ}_{Ti/Ti^{3+}} = (-2.156+3.82\cdot10^{-4}T)$ v, and find log K = - 2.888 + 3.251/T for the equilibrium constant. The resulting K values are: 2.82 at 700°C; 1.35 at 800°C; 0.76 at 900°C; and 0.46 at 1000°C. Thus, the equilibrium of reaction (1) is displaced to the left with rising temperature. In contrast to other researchers, the authors could not establish a dependence of the redox potential on the titanium concentration. There are 3 figures, 2 tables, and 7 references: 3 Soviet-bloc and 4 non-Soviet-bloc.

ASSOCIATION: Institut elektrokhimii Ural'skogo filiala Akademii nauk SSSR (Institute of Electrochemistry of the Ural Branch of the Academy of Sciences USSR)

PRESENTED: September 5, 1960, by A. N. Frumkin, Academician

SUBMITTED: August 31, 1960

Card 3/5

LOGINOV, N.G.; GULEV, Ya.F., redaktor; KHITROV, P.A., tekhnicheskiy redaktor.

[Manual on safety techniques for train make-up foremen and couplers] Pamiatka po tekhnike bezopasnosti sostaviteliu poezdov i stsepshchiku vagonov. Izd. 2. Moskva, Gos. transp. zhel-dor. izd-vo, 1954. 71 p. (Railroads--Safety measures) (MLRA 8:1)

LOGINOV, Nikolay Grigor'yevich; PANOV, V.I., redaktor; KHITROV, P.A., tekhnicheskiy redaktor.

[Manual on safety measures for train make-up foremen and couplers] Pamiatka po tekhnike bezopasnosti sostaviteliu poezdov i stsepshchiku vagonov. Izd.3-e Moskva, Gos.transp. zhel-dor.izd-vo, 1956. 79 p. (Railroads--Safety measures) (MLRA 9:6)

SAMSONOV, Aleksey Vasil'yevich; LOGINOV, Nikolay Grigor'yevich; TSARENKO, A.P., red.; BOBROVA, Ye.N., tekhn.red.

[Labor protection and safety measures in railroad traffic] Okhrana truda i tekhnika bezopasnosti v khoziaistve dvizheniia zheleznykh dorog. Moskva, Gos.transp.zhel-dor.izd-vo, 1959. 190 p. (Railroads--Safety measures) (MIRA 12:4)

LOGINOV, Nikolay Grigor'yevich; PREDE, V.Yu., red.; MEDVEDEVA, M.A., tekhn.red.

[Guide on safety engineering for the yard conductor and his assistant] Pamiatka po tekhnike bezopasnosti sostaviteliu i ego pomoshchniku. Izd.4, perer. Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei soobshcheniia, 1960. 50 p. (MIRA 13:11)

(Railroads--Making up trains)
(Railroads--Safety measures)

ACCESSION NR: AT4042306 S/0000/63/003/000/0289/0295

AUTHOR: Gushchin, G. I., Loginov, N. I.

TITLE: Electromagnetic flow meters with axiosymmetrical channels for liquid metal heat carriers

SOURCE: Soveshchaniye po teoreticheskoy i prikladnoy magnitnoy gidrodinamike. 3d, Riga, 1962. Voprosy* magnitnoy gidrodinamiki (Problems in magnetic hydrodynamics); doklady* soveshchaniya, v. 3, Riga, Izd-vo AN LatSSR, 1963, 289-295

TOPIC TAGS: heat carrier, liquid metal heat carrier, flow meter, electromagnetic flow meter, contact resistance

ABSTRACT: The authors consider the effect of the electrical contact resistance between the liquid metal and the electroconducting wall of the channel on the calculation and operation of electromagnetic flow meters with a working channel of axiosymmetrical form. The fundamental assumptions adopted in the study are set forth (constancy, homogeneity and infinite extension of the magnetic field along the channel axis; axial symmetry in the case of the liquid flow which is also assumed to be distorted only to a very slight degree by the electromagnetic forces; electron conductivity on the part of the

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ACCESSION NR: AT4042306

liquid; an electrical contact resistance between the liquid and the conducting wall which does not depend on the angle Θ ; axiosymmetry on the part of the flow meter channel which is assumed to be manufactured of a material with some electrical conductivity), and formulas are derived, on the basis of which the potential distribution as a function of angle Θ can easily be followed. This function is shown to be of a simple sinusoidal character for both the wall and the liquid. A further analysis is made of the distribution of potentials over the section of the wall. The dependence of the shunting factor on the value of the electrical contact resistance for different specific resistivities of the liquid and wall is analyzed, and the output voltage factor is studied from the same point of view. The authors have shown that in the case of flow meters in which the signal is read directly from the liquid flow, it is expedient to increase the contact resistance artificially or to design the channel of insulating material. In the case of flow meters in which the signal is taken directly from the outer surface of the wall, on the other hand, the contact resistance should be reduced and, if possible, stabilized. The presence of electroconductivity in the walls of the working channel leads to the occurrence of points with extremal potential values within the stream. The greater the shunting effect of the walls, the more the maximum potential difference between these points will differ from the voltage on the flow surface. The authors describe how this phenomenon can be

ACCESSION NR: AT4042306

employed to increase the sensitivity of flow meters with internal cathodes. It is also shown that in the transition from a laminar to a turbulent flow, no fundamental changes occur in the distribution of equipotentials and flows. Orig. art. has: 6 figures and 9 formulas.

ASSOCIATION: None

SUBMITTED: 04Dec63 ENCL: 00 SUB CODE: IE, EE

NO REF SOV: 000 OTHER: 001

3/3
Card

ACCESSION NR: AT4042307 S/0000/63/003/000/0297/0307

AUTHOR: Gushchin, G.I., Loginov, N.I., Subbotin, V. I.

TITLE: Measuring the velocity profile by an electromagnetic method

SOURCE: Soveshchaniye po teoreticheskoy i prikladnoy magnitnoy gidrodinamike. 3d, Riga, 1962. Voprosy* magnitnoy gidrodinamiki (Problems in magnetic hydrodynamics); doklady* soveshchaniya, v. 3. Riga, Izd-vo AN LatSSR, 1963, 297-307

TOPIC TAGS: hydromagnetics, velocity measurement, flow meter, velocity profile, electromagnetic velocity measurement, induction current, potential gradient measurement

ABSTRACT: The authors describe the essential features of an electromagnetic method for velocity measurement. This method is based on the induction of an EMF in a conductor travelling within a magnetic field. The distribution of potentials in the electroconductive liquid flowing in the magnetic field is uniquely related to the distribution of velocities in the liquid. A mathematical explanation of the method is given. The point is made that in order to obtain a velocity distribution by this method, the potential distribution and the mean velocity of the flow must be measured. A single moving electrode, introduced into the flow, with the tubing wall used as the second electrode, is

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sufficient for potential measurements in a liquid. Attention is called, however, to the difficulty involved in differentiating an experimentally measured potential distribution. In this connection, a two-electrode method for measuring the potential gradient is considered in the article. The authors note that with a velocity gradient present, circular currents arise in the liquid. In the first place, these currents give rise to an additional voltage drop in the liquid, thus distorting the potential gradient profile. In the second place, the presence of currents in the liquid leads to the occurrence of electromotive forces, which distort the velocity profile. With regard to the first effect, the authors demonstrate that measurements can be conducted with conventional unshielded electrodes and at an angle of 90° to the direction of the magnetic field. Since the magnitude of the EMF is proportional to the square of the magnetic induction, by reducing the latter, the second effect can be held to a minimum. The experimental stand, associated apparatus and the experiments themselves are described in a separate section of the paper. In addition to the basic system, the stand contained a system for the continuous purification of the metal and a measuring tank for the calibration of the flow meters by the volumetric method. Input and output of the metal was effected through mixing chambers. The experimental segment in this case was a tube of stainless steel,

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type 1Kh18N9T. A cone-shaped probe, 335 mm in length, was introduced from the output end into the segment. The probe terminated in two electrodes, whose ends were located at a distance of 1.3 mm from one another. The electrode was a wire, 0.1 mm in diameter, covered with an alundum insulation and inserted into a stainless steel capillary with an outer diameter of 0.4 mm. The probe was equipped with a special device, employing an electric motor, to permit the movement of its end over any diameter in one section of the tubing. Two series of experiments were run. In the first series, the magnetic field was generated by a permanent magnet and a single-electrode probe was used. It was found that the potentials increase, for the most part, linearly, with "bends" occurring only in the immediate vicinity of the tube walls. The results are analyzed in the article. In the second set of tests, the field was created by a DC electromagnet and a twin-electrode probe was employed. The experimental profile in this case was found to be flatter than the theoretical. Having discovered, in the course of the experimentation, severe distortion of the velocity profile at an inductance of about 6,000 gauss, the authors attempted to estimate the permissible magnitude of magnetic induction, at which distortions are negligible. The final section of the article deals with this problem. The general conclusions drawn from this study are the circular currents in the liquid do not distort the form of the potential gradient profile in the direction perpendicular to the magnetic field, and that distortion of the velocity profile by magnetic forces is very severe. This effect

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may be avoided by reducing the magnitude of the magnetic induction, but this requires apparatus of extremely high sensitivity, permitting the measurement of signals on the order of 1 microvolt. Orig. art. has: 5 figures and 18 formulas.

ASSOCIATION: none

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LASHCHINSKIY, A.A., inzh.; TOLCHINSKIY, A.R., inzh.; GOLUBEV, B.A., inzh., retsenzent; YERSHOV, B.A., inzh., retsenzent; LOGINOV, N.N., inzh., red.; VASIL'YEVA, V.P., red.izd-va; MIKHEYEVA, R.N., red.izd-va; SPERANSKAYA, O.V., tekhn.red.

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